

North Central Texas Council of Governments

Let It Grow: A Showcase of No Mow Zones in North Central Texas

**NCTCOG Webinar
February 22, 2023**

*Prepared in cooperation with the
Texas Commission on Environmental Quality
and U.S. Environmental Protection Agency*

Elena Berg, NCTCOG
eberg@nctcog.org



www.nctcog.org/WaterResources

Procedures for Webinar

- ▶ The webinar is being recorded and will be posted to NCTCOG's website under the green banner called "Webinars" here:

<https://www.nctcog.org/envir/natural-resources/water-resources>

- ▶ If you submitted an RSVP for this webinar, you will receive an email with the presentation slides, and eventually, a link to the recording. If you did not RSVP and would like these webinar materials, please email eberg@nctcog.org.
- ▶ Please keep your microphone on mute until the Question-and-Answer period at the end of each presentation.
- ▶ Thank you!

Webinar Agenda

- ▶ **City of Dallas**
- ▶ **City of Grapevine**
- ▶ **City of Burleson**
- ▶ **City of Fort Worth**
- ▶ **City of Denton**
- ▶ **Town of Flower Mound**



Speaker Introduction

Brett Johnson

- ▶ Sr. Environmental Coordinator/Urban Biologist
- ▶ City of Dallas

Non-Mow Areas in Dallas Parks

Challenges and Conservation Opportunities

Brett Johnson
Senior Environmental Coordinator/Urban Biologist
Park and Recreation Department



Dallas Park & Recreation

Invasive Species—Queen Anne's Lace



Invasive Species--Johnsongrass





https://www.epa.gov/sites/default/files/styles/large/public/2020-08/burning_crew_member_ks_burns_story.png?itok=qbsFq7rS

Fire Issues

Prescribed fire good

Political challenge

Fuel height
reduction

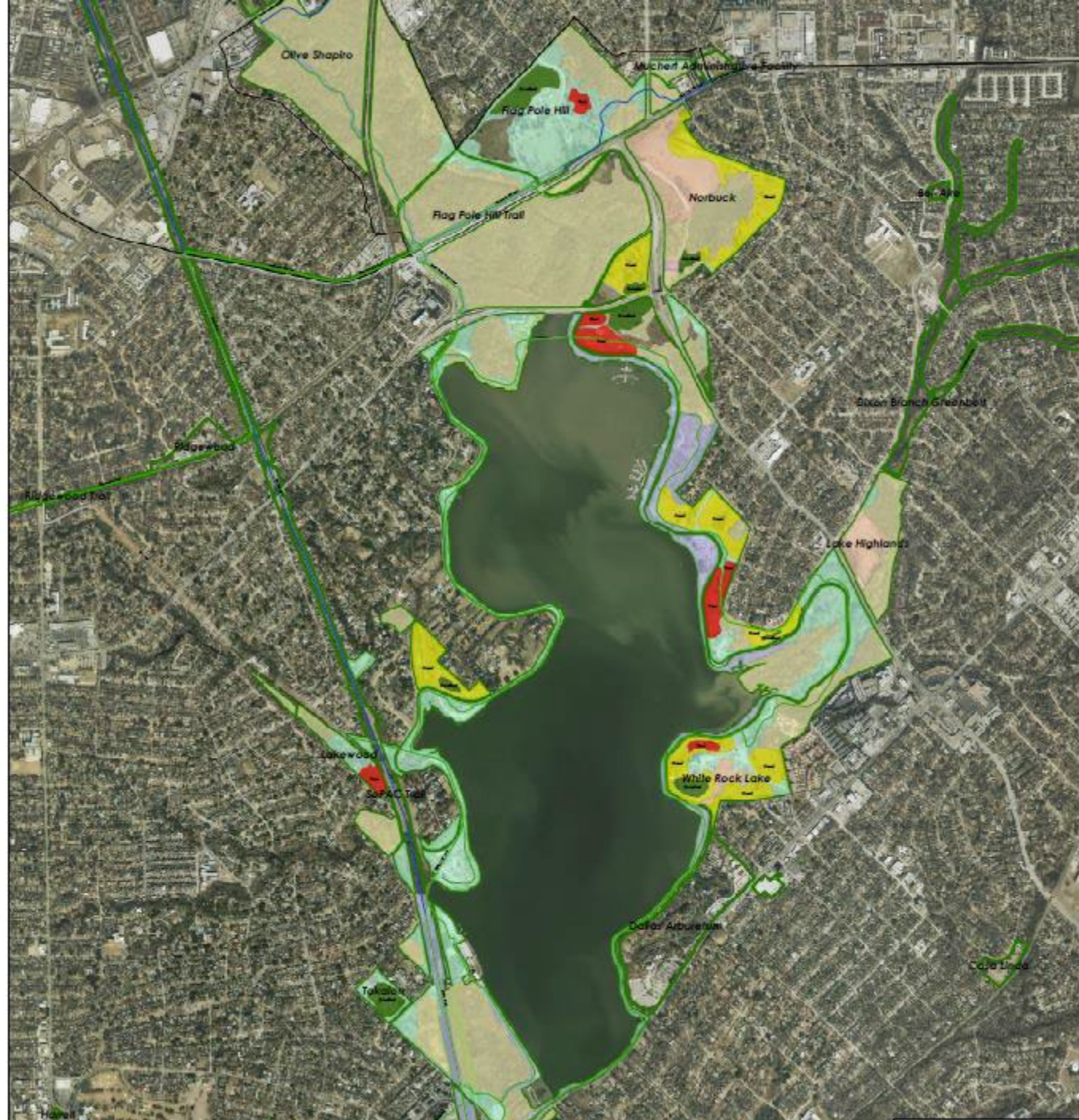
Conservation Opportunities



White Rock Prairie Management







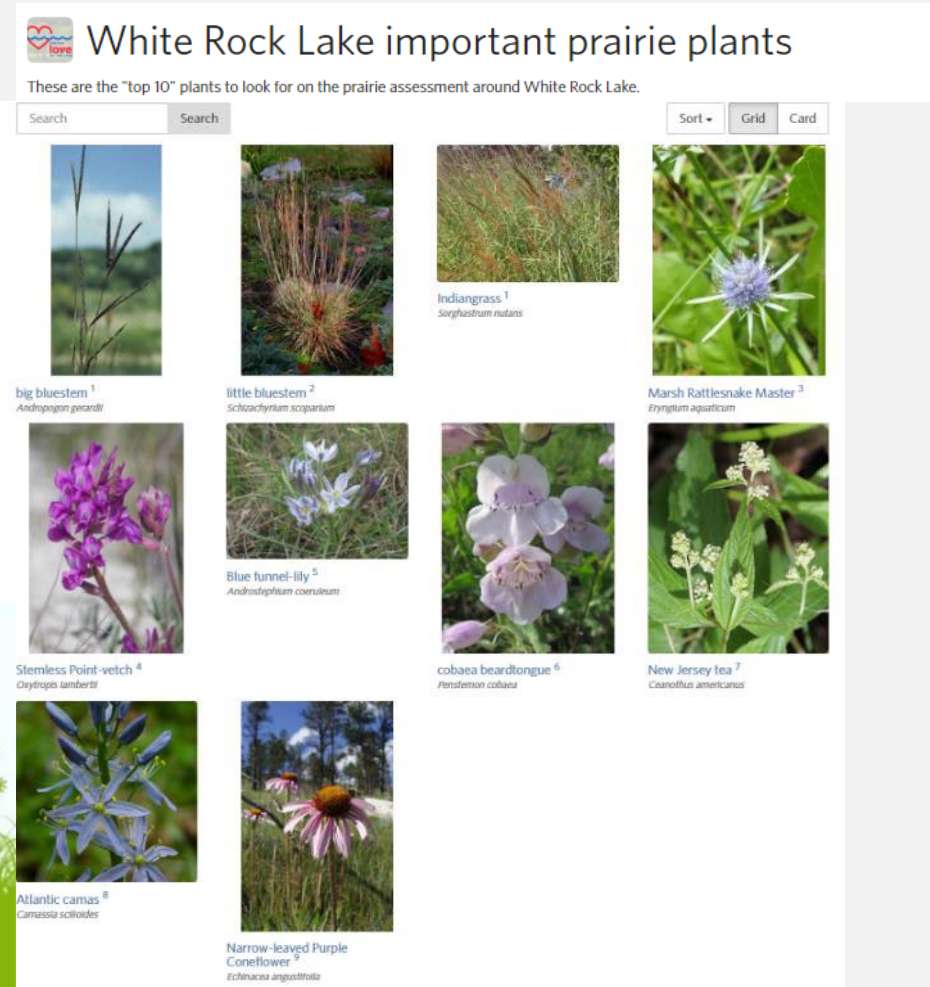
Legend

Prairie Volunteer Efforts



Volunteer Driven Management

- Adopt-A-Prairie
- Survey for “Top 10 Plants”
iNaturalist***
- Manual removal of invasive species
- Seed collection and dispersal
- 5 areas already adopted





Dallas Park & Recreation

ADOPT-A-PRAIRIE PROGRAM

THIS AREA ADOPTED BY

For more information, contact: urbanbiologist@dallascityhall.com

ADOPT-A-PRAIRIE

Thank you for your interest in the Dallas Park and Recreation Department's Adopt-A-Prairie Program.

This program gives volunteer groups the opportunity to engage in the restoration and maintenance of the precious prairie remnants found in Dallas parks.

VOLUNTEER ACTIVITIES



Manual removal of invasive species



Seed collection and/or planting



Collection of biological data

VOLUNTEER REQUIREMENTS

1. Sign up through a one year Beautification Agreement
2. Group has *at least* 5 participants per 1 acre selected
3. Commit to a minimum of 15 hours per month during the growing season (mid-March through October)
4. Commit to the three "Volunteer Activities"
5. Submit monthly paperwork and photos to the Urban Biologist



Verifiable, Research Grade Observations 4/18/2018-4/18/2019



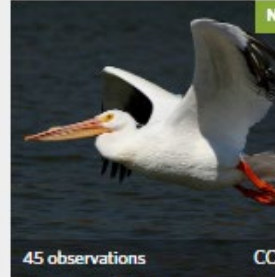
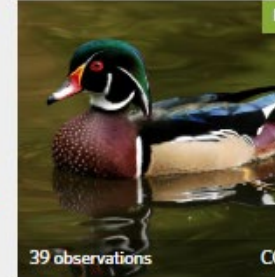
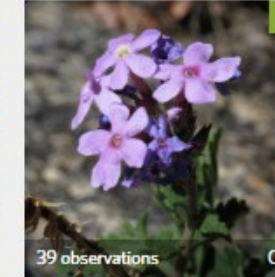


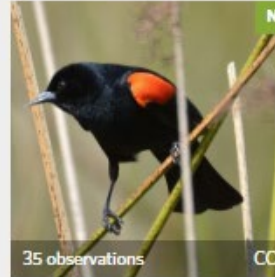





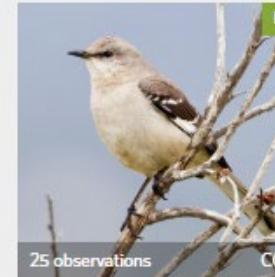
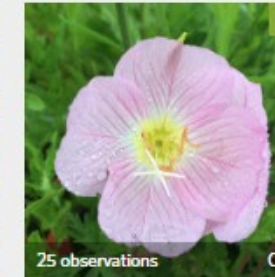
The World

2,848 OBSERVATIONS

652 SPECIES

536 IDENTIFIERS

152 OBSERVERS

 <p>69 observations</p> <p>CC</p> <p>Mallard <i>(Anas platyrhynchos)</i></p>	 <p>57 observations</p> <p>CC</p> <p>Great Egret <i>(Ardea alba)</i></p>	 <p>45 observations</p> <p>CC</p> <p>American White Pelican <i>(Pelecanus erythrorhynchos)</i></p>	 <p>39 observations</p> <p>CC</p> <p>Wood Duck <i>(Aix sponsa)</i></p>	 <p>39 observations</p> <p>CC</p> <p>Dakota Mock Vervain <i>(Glandularia bipinnatifida)</i></p>
 <p>38 observations</p> <p>CC</p> <p>American Coot <i>(Fulica americana)</i></p>	 <p>37 observations</p> <p>CC</p> <p>Common Slider <i>(Trachemys scripta)</i></p>	 <p>35 observations</p> <p>CC</p> <p>Red-winged Blackbird <i>(Agelaius phoeniceus)</i></p>	 <p>35 observations</p> <p>CC</p> <p>Engelmann Daisy <i>(Engelmannia peristenia)</i></p>	 <p>27 observations</p> <p>CC</p> <p>Western Honey Bee <i>(Apis mellifera)</i></p>
 <p>27 observations</p> <p>CC</p> <p>Antelope Horns <i>(Asclepias asperula)</i></p>	 <p>26 observations</p> <p>CC</p> <p>Monk Parakeet <i>(Myiopsitta monachus)</i></p>	 <p>26 observations</p> <p>CC</p> <p>Indiangrass <i>(Sorghastrum nutans)</i></p>	 <p>25 observations</p> <p>CC</p> <p>Northern Mockingbird <i>(Mimus polyglottos)</i></p>	 <p>25 observations</p> <p>CC</p> <p>Pinkladies <i>(Oenothera speciosa)</i></p>


Pollinator Conservation Effort



More pollinator gardens
Modifying wildflower planting—more perennial plants
Modify mowing







NATIVE AMERICAN
SEED

solutions for eco-logical land management
...helping people restore the earth

Junction, Texas 800.728.4043 www.seedsources.com

Blackland Prairie Mix - Lot #: 280001031319 *Sell By: Apr/2019. Seeds likely viable much longer

Name	% by wt	Test date	Germ	Dormant	Total Germ
Buffalograss	12.37%	7/2018	99.00%	0.00%	99.00%
Eastern Gamagrass	10.27%	9/2018	14.00%	60.00%	74.00%
Partridge Pea	7.42%	12/2018	6.00%	88.00%	94.00%
Illinois Bundleflower	5.73%	8/2017	75.00%	0.00%	75.00%

Little Bluestem 4.95%, Big Bluestem 4.95%, Sidouts Crema 4.95%, Indiangrass 4.95%, Indian Blanket 4.95%, Virginia Wildrye 3.64%, Plains Bristlegrass 4.38%, Prairie Wildrye 4.33%, Purple Prairie Clover 3.71%, American Basketflower 3.09%, Maximilian Sunflower 2.47%, Texas Yellow Star 2.04%, Green Sprangletop 1.92%, Inland Seaots 1.55%, Purpletop 1.24%, Switchgrass 1.24%, Texas Cupgrass 1.18%, Hooded Windmill Grass 1.11%, Clasping Coneflower 0.79%, Sand Lovegrass 0.74%, Black-eyed Susan 0.74%, White Tridens 0.63%, Plains Coreopsis 0.56%, Lemon Mint 0.56%, Sand Dropseed 0.49%, Broomsedge Bluestem 0.49%, Butterfly Weed 0.37%, Florida Paspalum 0.16%, Mealy Blue Sage 0.15%, Annual Winecup 0.12%, Prairie Agalinis 0.12%, White Rosinweed 0.10%, Cutleaf Daisy 0.099%, Prairie Verbena 0.062%, Winecup 0.056%, Rose Milkweed 0.049%, Standing Cypress 0.040%, Rattlesnake Master 0.037%, Canada Goldenrod 0.037%, Foxglove 0.035%, Showy Milkweed 0.035%, Care Bluestem 0.028%, Spiderwort 0.001%

Purity: 88.87% Inert: 9.54% Other: 1.48% Weed: 0.01% Noxious: None Origin: USA
 Germ: 66.49% Dormant: 23.46% Tot Germ: 89.95% PLS: 79.72% PLS Seeds/lb: 182,186 Net Weight: 50 lbs

*Acceptance of these seeds is an agreement that they will not be used for breeding purposes with commercial seed increase, selected plant release, or patented outcome



Wildflower Areas

- 137 areas, 97 acres
- Prep begins in February, typically start blooming at the end of March, try to maintain until flowers go to seed
- Looking to increase Fall blooming plants



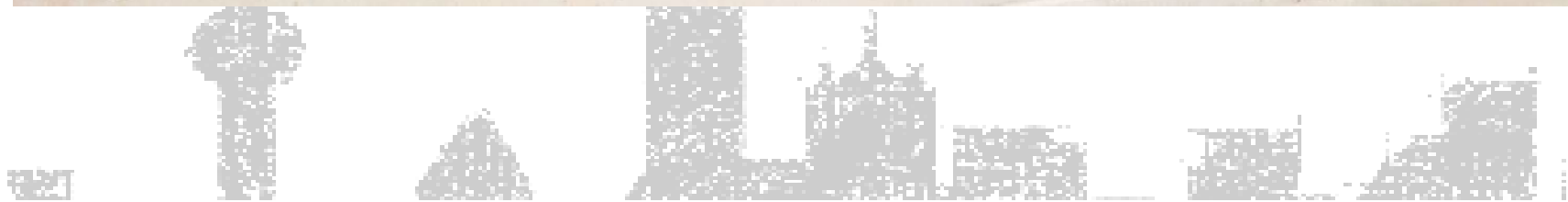
Pollinator Gardens

- Staff/city and volunteer/community driven gardens--at least 1 garden in each maintenance district (6)
- Minimum standard--certifiable as Monarch Waystations
- Texas Discovery Garden--partner and NFWF Grant
- 11 installed, 10 more planned—RP Brooks, Everglade, Crawford, Tenison are excellent examples



Crawford Memorial Park





Urban Biologist



The City of Dallas Park and Recreation Department is a steward of its resources and is committed to maintaining an accurate inventory of its natural assets. Urban Biologist Brett Johnson is responsible for leading a natural resource management plan for the Dallas Park and Recreation Department.

Brett Johnson

Urban Biologist

Ph: 214-670-1923

Fx: 214-670-6748

[Email](#)

[Biography](#)

Speaker Request

Invite our Urban Biologist to speak at your next event.

[Speakers Request Form](#)

Park Maintenance and Operations

542 E. Jefferson Blvd.
Dallas, Texas 75203

Ph: 214-670-1923

Fx: 214-670-6748

Business Hours

Monday - Friday

7:30 a.m. - 4:30 p.m.

Calendar

Urbanbiologist@dallascityhall.com

Questions?



Speaker Introduction

Kathy Nelson

- ▶ Parks and Recreation Department Planning Manager
- ▶ City of Grapevine



GRAPEVINE PARKS & RECREATION

No-Mow and Natural Areas



Enhanced Landscapes

Habitat Restoration

Prairie Reconstruction



CHALLENGES

Past Culture

- Everyone should be able to live on a golf course
- Every green space should look like a putting green
- When in doubt, mow



Ordinances... Or the lack thereof

Work with what you have:




- Flood Damage Prevention
- Sediment & Erosion Control
- General Use Zoning District
- Lean on other requirements and guidelines

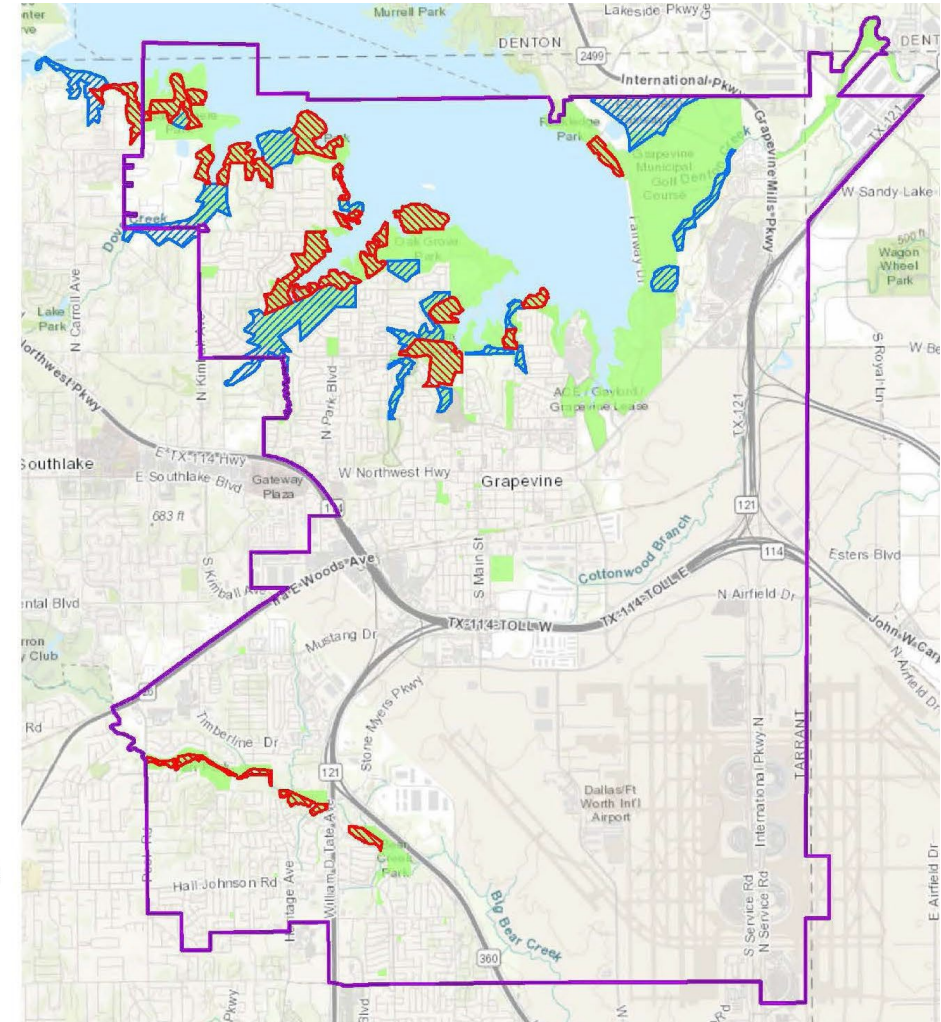
ENVIRONMENTALLY SENSITIVE AREAS (ESA'S)

This map shows the Environmentally Sensitive Areas defined within Grapevine City limits.

The areas in blue are ESA's put in place and determined by the United States Army Corps of Engineers.

The areas in red are additional ESA's determined by the City to offer protection and conservation of the natural resources.

-  Army Corp of Engineers ESA's
-  Grapevine ESA
-  Grapevine City Limits
-  Parks



Requires Patience

- Meet stakeholders where they are – multiple starting points
- Takes so much time...
 - to listen
 - to educate
 - to see results in the field

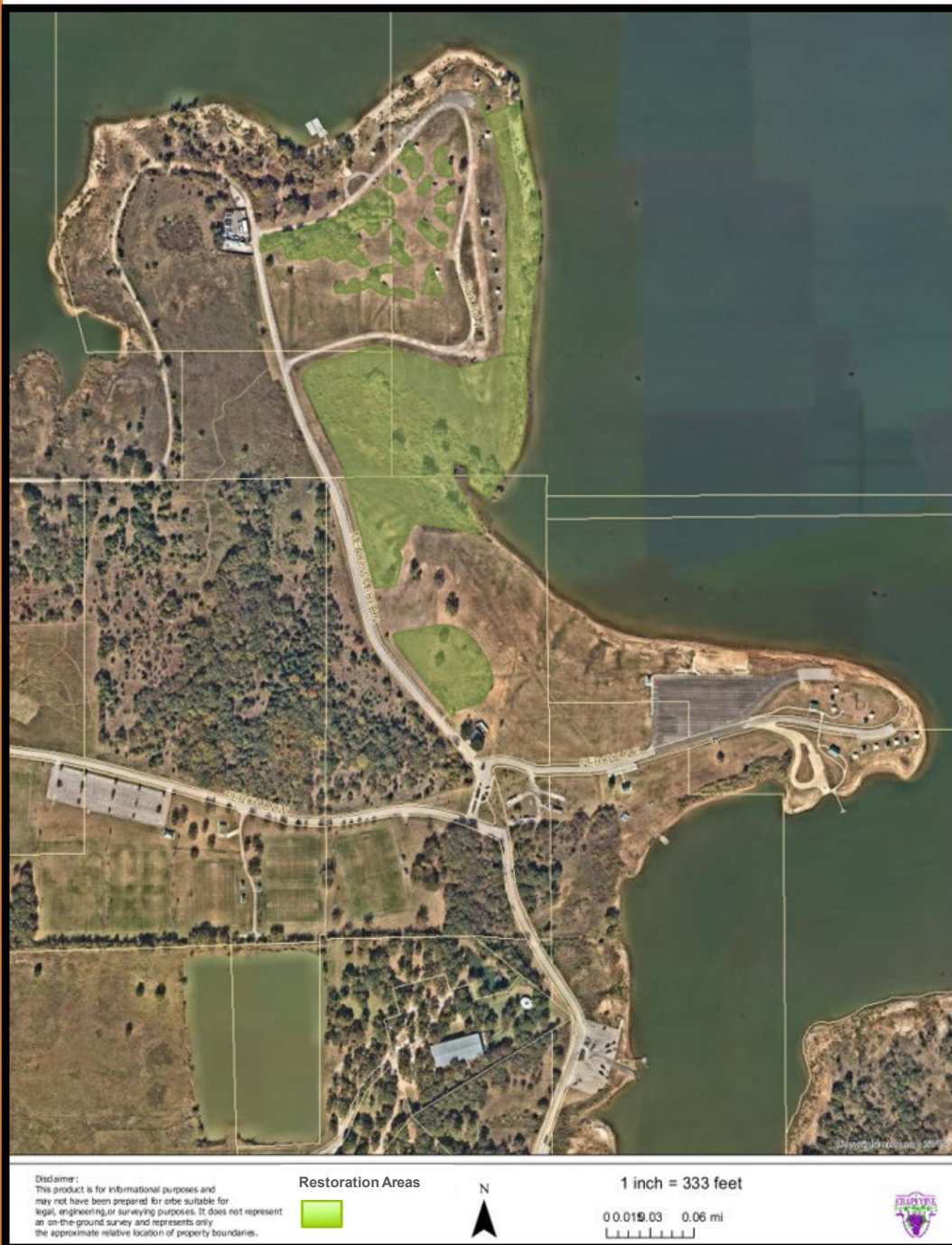




SUCCESSSES

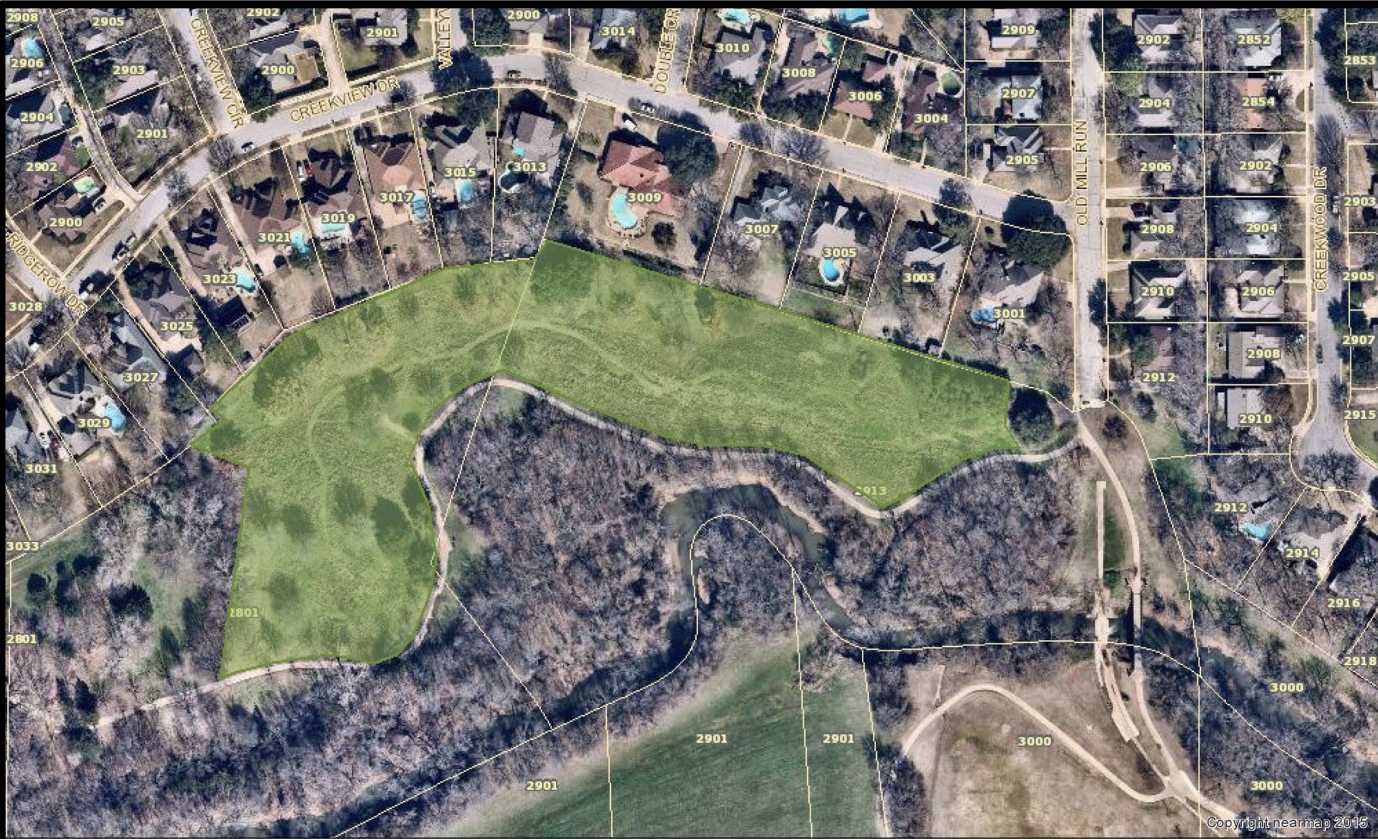
Meadowmere Park

- Limited stakeholders
- Supportive cultural and physical environment
- Stopped mowing
- Began planting
- Began educational programming



Parr Pollinator Prairie

- Hesitant stakeholders
- Physical environment not conducive
- Conducted door to door conversations
- Stopped mowing
- Began removing invasives
- Instituted mowed buffers along back yard fences
- Started planting
- Started educational programming
- Mow every three years

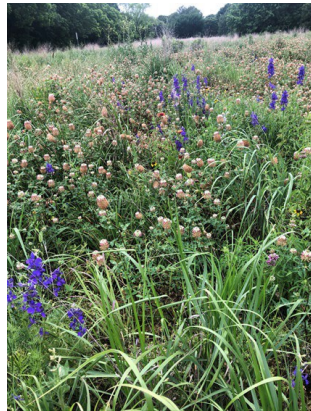
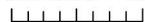


Disclaimer:
This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

1 inch = 160 feet



0.0075015 0.03 mi



GRAPEVINE PARKS & REC

Bear Creek Overbanks

- Resistant stakeholders
- Conducive physical environment
- Stopped mowing
- Responsive one on one conversations
- Instituted mowed buffers
- Responsive conversations with the HOA
 - provide supportive documentation
 - involved floodplain administrator
- Start invasive removal and observation
- Once-a-year mowing to start





LESSONS LEARNED

Mowed Buffers: The DMZ of Habitat Restoration

- Creates a sense of safety
- Creates a sense of ease
- Provides uniformity
- Demonstrates purposefulness
- Begets tolerance



No Mow \neq No Mowing

- Think about signage
- Think about vegetation control methods

No Mow \neq No Maintenance

- Invasive Control
- Succession Management
- Maintain wildflower to grasses ratio
- A very important point to drive home when talking with stakeholders



Floodplain Management

- Flooding gets peoples attention
- Make a new friend today – meet your Floodplain Administrator
- Review floodway modeling for areas that are conducive to habitat restoration - look for Manning ' s n value (roughness coefficient)

Reference Manning's n for Channels (Chow, 1959).

3. Floodplains

a. Pasture, no brush

1. short grass	0.025	0.030	0.035
2. high grass	0.030	0.035	0.050

c. Brush

1. scattered brush, heavy weeds	0.035	0.050	0.070
2. light brush and trees, in winter	0.035	0.050	0.060
3. light brush and trees, in summer	0.040	0.060	0.080
4. medium to dense brush, in winter	0.045	0.070	0.110
5. medium to dense brush, in summer	0.070	0.100	0.160

1. Discharges:	Upstream Limit	Downstream Limit
10-year	9400	9400
50-year	15100	15100
100-year	18300	18300
500-year	24500	24500

Attach diagram showing changes in 100-year discharge

2. Explain how the starting water surface elevations were determined From downstream Big Bear Creek model.

3. Give range of friction loss coefficients (Manning's "N") Channel 0.035-0.055
Overbanks 0.055-0.080

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

Location	FIS	Revised
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Explain: N/A

4. Describe how the cross section geometry data were determined (e.g., field survey, topographic map, taken from previous study) and list cross sections that were added.

N/A

Know Your Ordinances...

Don't get goat tied

- Review what is not allowed as well as what is allowed
- Make note of what is missing



Questions?

Kathy Nelson, AICP, RLA
Planning Manager

knelson@grapevintexas.gov

817-410-3394

GRAPEVINE PARKS & RECREATION

Speaker Introduction

Daniel Shafer

- ▶ Parks Superintendent
- ▶ City of Burlison



Parks No Mowing Areas

Overview

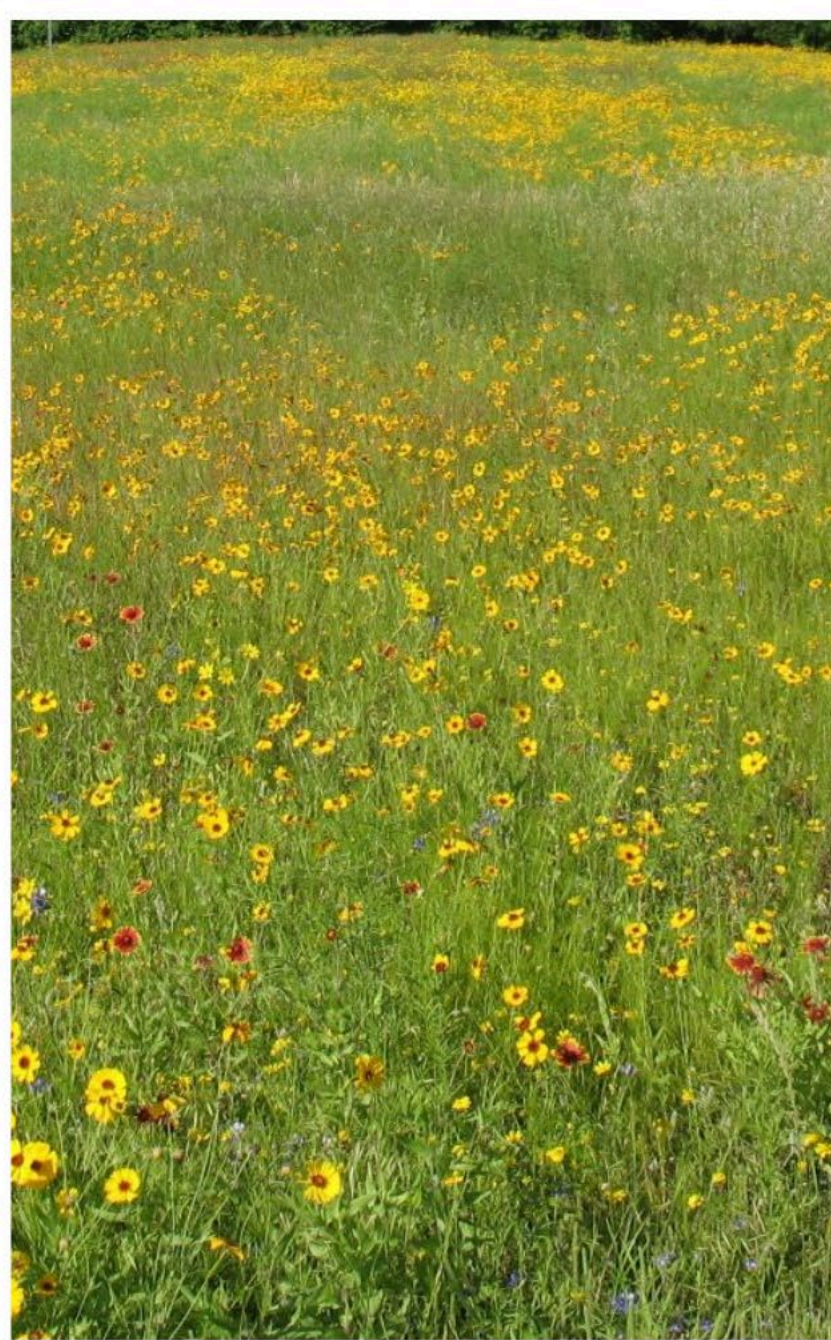
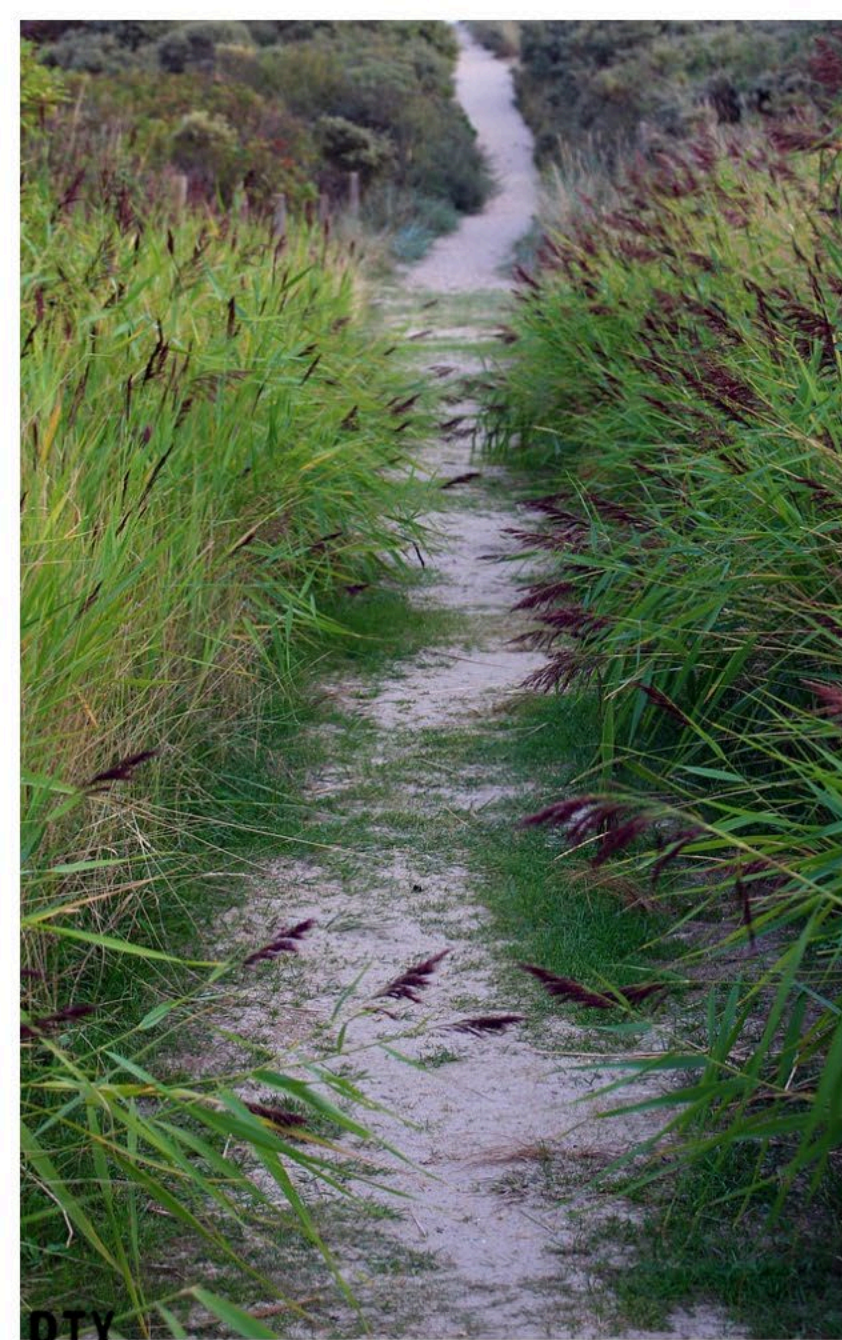
1. What Are No Mowing Areas?
2. Benefits
3. Ideal locations for No Mowing Areas
4. Existing Sites
5. Best Practices for Maintenance
6. Proposed NEW Wildflower Areas
7. Education and Outreach
8. Fiscal Impact
9. Feedback and Recommendations





What are No Mowing Areas?

- Areas identified for conservation, erosion control, and maintenance cost control
- Sections of park land that naturally lend themselves to conservation (natural areas)
- Require no maintenance, minimal maintenance, or volunteer-led maintenance
- Three types identified in Burleson parks
 - **Natural Areas** - riparian buffers along creeks or drainage areas, forest areas, unprogrammed conservation areas that allowed to grow wild
 - **Wildflower Areas** - areas primarily comprised of natural and/or seeded wildflowers
 - **Prairie Areas** - areas featuring native prairie soils, plants and features



Benefits of No Mowing Areas

- Reduce maintenance cost
- Deep rooting plants retain soils and reduce erosion
- Help prevent/filter grass clippings, litter, and other toxin from regularly entering waterway
- Promote pollinator activity
- Protect natural and native resources
- Provide food and cover for native wildlife
- Help air quality through reduced equipment emissions
- Carbon sequestration
- Provide educational and outdoor learning opportunities
- Help qualify for grant opportunities





Ideal Locations for No Mowing Areas

- Areas of existing, undisturbed, native soils of a historic ecological region as evidenced by native plants, animals, and insects present (e.g. forests and prairies)
- Areas prone to erosion such as sloped areas in parks and along creek embankments
- Areas that are easily accessible for proper maintenance equipment such as discs, tillers, boom sprayers, and rough-cut mowers (wildflower areas require periodic special maintenance)
- Areas of inconsistent grade that offer little value for open space play opportunities
- Areas not presently feasible for irrigation and agronomic programs
- Undeveloped and conservatory park land to minimize maintenance costs and capital funding commitment to beautify an area

Existing No Mowing (Natural) Areas

Forested and Riparian Areas

- Bailey Lake Park - 17.45 acres
- Chisenhall Hike/Bike Trail - 70.33 acres
- Coyote Loop Trail (Wakefield) - 48.42 acres
- Oak Valley Park/Trail - 24.42 acres
- Prairie Timber (East) - 11.25 acres
- Russell Farm - 12.02 acres
- Shannon Creek Park - 9.54 acres
- Shannon Creek (east of Candler) - 9.74 acres
- Village Creek Trail - 6.81 acres
- Willow Creek Park - 2.97 acres

Prairie Areas

- Coyote Loop (Wakefield) 3 acres

Natural Area Acreage: 215.95

Mow/Litter Cost Avoidance: \$110,674.00/year



Best Practices for Maintenance

Natural Areas (forested, wild, and embankment vegetation strips)

- Maintain outside edges
- Maintain a buffer at least 6 feet away from shared property lines, trails amenities and programmed areas
- Post ID signage at riparian and wild areas
- Recruit volunteers to assist with annual or quarterly clean-up
- Annual mowing in wild and riparian areas to manage invasives



NO MOW AREA

WILDFLOWER AREA



NO MOW AREA

PRAIRIE AREA



NO MOW AREA

NATURAL AREA



Sample On-site
ID Signage

<https://www.burlesontx.com/2493/No-Mow-Areas>

Best Practices for Maintenance (continued)

Prairie and Wildflower Areas

- Maintain outside edges
- Preparation by purging invasives and light tilling
- Seeding during the Fall
- Maintain a buffer at least 6 feet away from shared property lines, trails amenities and programmed areas
- Post ID signage
- Recruit volunteers to assist with annual or quarterly clean-up
- Recruit volunteers to help manage invasives prior to flowering or seeding
- Strategic annual or semi-annual mowing to allow for seeding and to manage invasives
- Supplemental plantings or seeding as needed
- Selective herbicide use to manage invasives as needed





Proposed NEW Wildflower Areas

- Chisenhall - paved trail near Windmill
- Meadow Crest - sloped area
- Oak Valley South - near creek
- Oak Valley Trail - pockets along trail
- Old Mulch Site - behind dog park
- Wakefield Heights - supplement existing area

5 new acres total

Education and Outreach Opportunities

Webpage for Now Mow Areas

- Category descriptions and inventory
- Location maps
- Benefits
- Volunteer opportunities
- FAQs
 - Managing expectations - seasonal appearance
 - Relying on natural rainfall
 - Mowing and seeding strategy
 - Invasive species management

On-site standard signage

- Area type
- QR code linking to website

Interpretive signage (if funded and applicable)

Outdoor programming and classroom partnering with public schools, home school groups and Master Naturalists

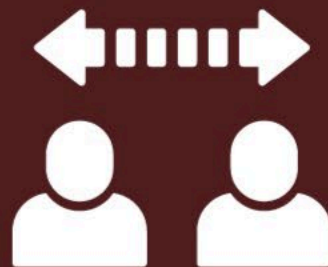




Fiscal Impact for New Areas

- Seed costs: \$2,500
- Site prep costs: \$220
- Signage costs: \$660
- Mowing savings: \$3,000
- **Total Year 1 costs: \$380 (costs - savings)**
- **Total Year 2 savings: \$3,000**

Questions, Answers and Feedback



Speaker Introduction

Michelle Villafranca

- ▶ Park Operations & Natural Resource Planner
- ▶ City of Fort Worth

Reduced Mow: Natural Areas



Identify the Need: Why Buffers?

- Returns a more natural stream function
- Filters stormwater runoff, removing pollutants before they reach the stream
- Prevents stream bank erosion
- Reduces floodwater velocity, which reduces downstream flooding & erosion
- Provides shading, reducing water temperatures which protects aquatic life
- Provides habitat & food for diverse wildlife
- Reduces the City's carbon footprint by reduced mowing
- Less staff hours on maintenance
- Better stewardship of taxpayers dollars
- Provides scientific & educational opportunities



Identify the Need

- Recognized the issue
- Researched & benchmarked
- Gathered input from other City departments
- Drafted a Natural Resource Management plan for Water Resources
- Established evaluation criteria
- Identified parks for trial run



Heritage Addition Park

Definitions of SMZ Widths			
Tier 0	0 feet	= Mow to edge of stream	Narrow, linear parks; as determined on a case-by-case basis
Tier 1	30 feet	= 15 feet either side of bankfull (top of bank; the water level stage that begins to spill out of the channel into the floodplain.) totaling 30 foot width (not including stream bed)	Narrow, linear parks
Tier 2	50 feet	= 25 feet either side, totaling 50 foot width	Standard, applicable distance from adjacent private property structures
Tier 3	100 feet	= 50 feet either side of bankfull totaling 100 feet	Large parks with ample access to stream elsewhere
Tier 4	200 feet	= 100 feet either side of bankfull totaling 200 feet	Large parks, TCEQ impaired watercourses, erosion issues, natural area designation (official or not)
Tier 5	300 feet	= 150 feet either side of bankfull totaling 300 feet	Large parks, TCEQ impaired watercourses, erosion issues, natural area designation (official or not)

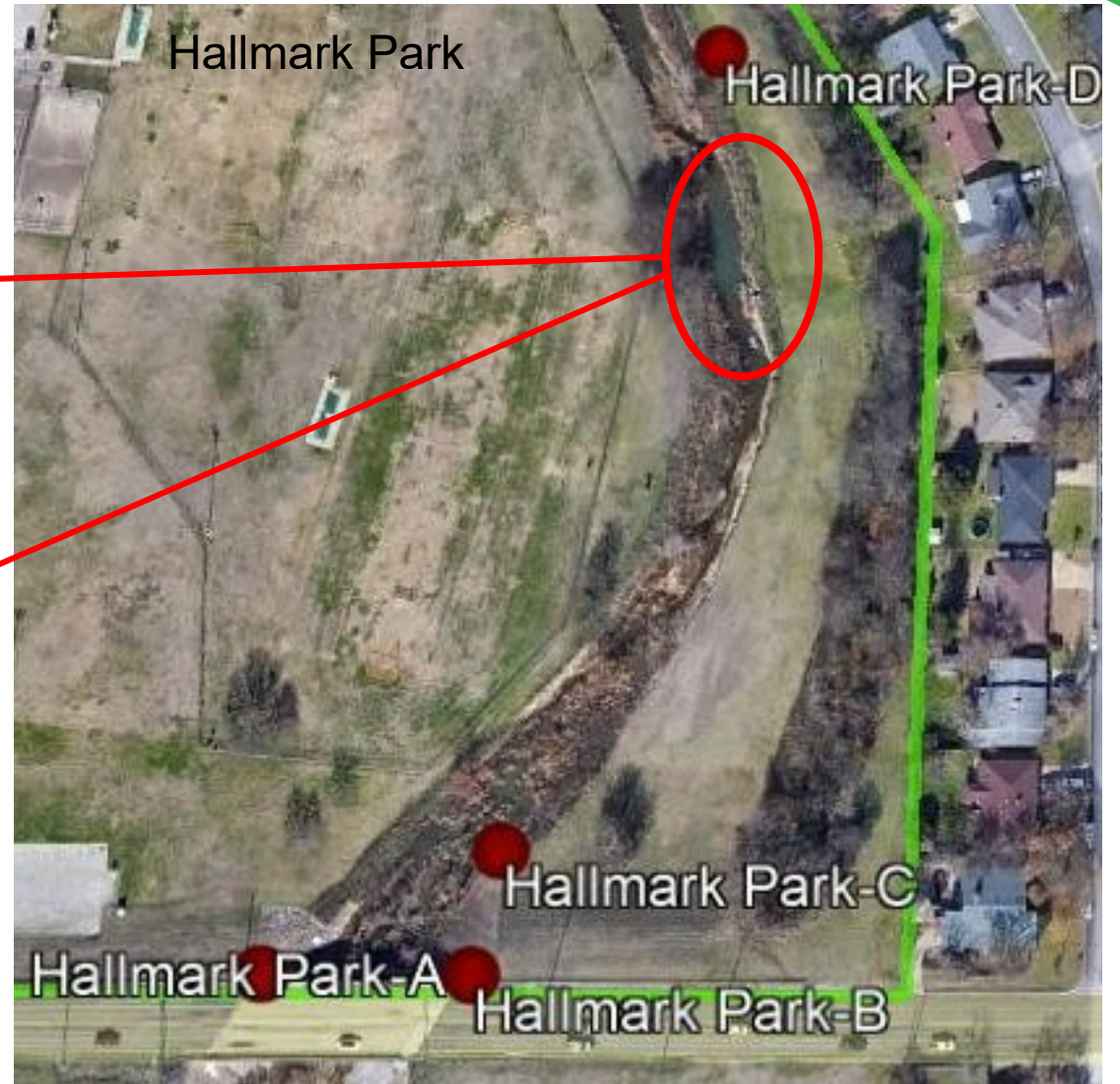
Natural Area: Stream Buffers



4/2022



7/2022



Natural Area: Wildflowers

Quail Ridge Park



Love Circle Park



Quail Ridge Park



Challenges & Solutions

Challenges:

- Conveying area to mow contractors
- Training staff
- Public perception, complaints
- Developing an education campaign
- Rapid growth, short-staffed, priority is general maintenance
- Litter
- Provide access to water, rotate area out to avoid erosion
- Invasive species management
- Unauthorized camping

Solutions:

- Work with *Keep Fort Worth Beautiful* for litter abatement
- Install water goats
- Develop a more robust outreach & education program
- Provide more habitat for wildlife; especially species that can control mosquito population
- Develop an urban wildfire management plan; establish a Fuelbreak policy for parks & open space with natural areas
- Use available tools to control invasive species



Thank you

Michelle Villafranca, Park Operations & Natural Resource Planner
City of Fort Worth Park & Recreation Department

Michelle.Villafranca@fortworthtexas.gov



Questions?



Speaker Introduction

JoEtta Dailey

- ▶ Watershed Protection Manager
- ▶ City of Denton

City of Denton – Grow & Low Mow Zones

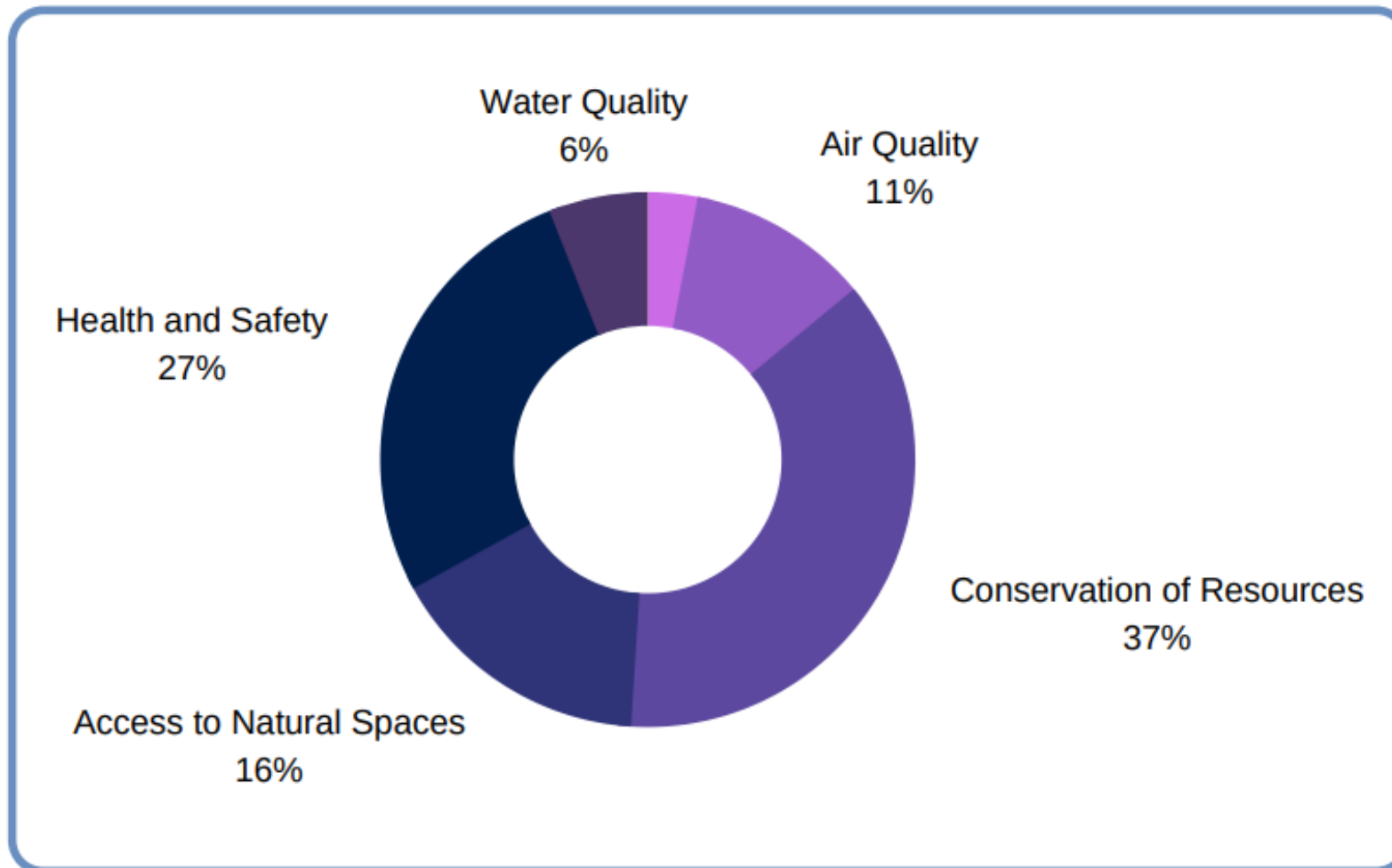
JoEtta Dailey

Environmental Services and Sustainability

Watershed Protection Division



Primary Interest in Sustainability



Green Stormwater Infrastructure

- ▶ 319 grant funded
- ▶ Supports the Hickory Creek Watershed Protection Plan



STORMWATER QUALITY PROJECT



This system cleans stormwater as it flows into Hickory Creek. Through a combination of methods, it causes water to slow down and infiltrate into the soil. This allows natural systems, such as plants and soil-based microorganisms, to remove or break down pollutants including nutrients, sediments, bacteria, and heavy metals.



Learn more at
www.dentonwatersheds.com

This project is supported by the Clean Water Act Section 319 Grant administered through the Texas Commission on Environmental Quality and by project partners, Upper Trinity Regional Water District and the North Texas Municipal Water District.

Green Stormwater Infrastructure

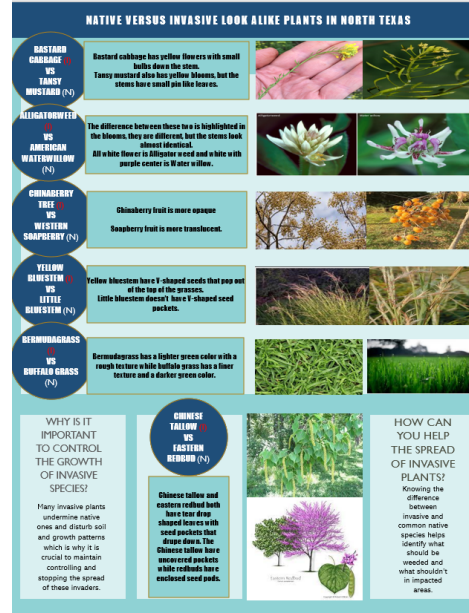
► Complete Streets



Green Asset Management Grant

► Silver Jackets project

- USACE
- Texas AgriLife
- EPA
- City of Denton
- Southwest Environmental Finance Center - UNM



CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM							
Location:		Inspector:					
Date:		Time:	Site Conditions:				
Rain > 0.10" last 24 hours	Y / N	Date:	Vegetation:				
			Final Score	0			
			Total points	69			
Score, description							
0, Continue routine maintenance/NA							
1, Minor issues observed, needs attention							
2, Major issues observed, requires immediate attention							
3, Failure							
Inspection Items	Weight	Score 0 - 3, circle score or select drop down menu			Comments/ Corrective Action		
1. Standing Water (Annually)							
A) No evidence of standing water after 72 hours.		0	1	2	3	Score = 0	
2. Short Circuiting & Erosion (Annually)							
A) No evidence of animal burrows or other holes?		0	1	2	3	Score = 0	
B) No evidence of erosion?		0	1	2	3	Score = 0	
C) Evidence of sediment accumulation on surface? Attach picture		0	1	2	3	Score = 0	
3. Overflow Bypass / Inlet Inspection (Annually)							
A) Surface is at design level, typically 4" below overflow	2	0	1	2	3	Score = 0	
B) Overflow bypass / inlet (if available) is functional?	3	0	1	2	3	Score = 0	
C) Overflow bypass / outlet (if available) is functional?	3	0	1	2	3	Score = 0	
D) No evidence of blockage or accumulated leaves/sediment?	3	0	1	2	3	Score = 0	
4. Debris Cleanup (Annually)							
A) Free from litter, leaves, and dead vegetation?		0	1	2	3	Score = 0	
5. Mulch Depth (if applicable)							
A) Mulch at original design depth? If applicable.		0	1	2	3	Score = 0	
6. Vegetation Coverage (Annual)							
A) Plants are stable, roots not exposed?		0	1	2	3	Score = 0	
B) Robust coverage?		0	1	2	3	Score = 0	
C) Invasive plants present (> 5%) (attach picture)?		0	1	2	3	Score = 0	
D) Dead or decaying plants removed from the system?		0	1	2	3	Score = 0	
E) Prune perennial vegetation?		0	1	2	3	Score = 0	
F) Prune dead, diseased, or crossing tree branches		0	1	2	3	Score = 0	
7. Drought Conditions (As needed)							
A) Water plants as needed. If applicable.		0	1	2	3	Score = 0	
B) Dead or dying desirable. If applicable.		0	1	2	3	Score = 0	
TOTAL Score 0							
Notes							
Corrective Action Criteria:							
0 - 21, Pass, continue routine maintenance							
21-46, Needs attention/maintenance							
47-69, Needs urgent attention/replacement							
Corrective Action Needed				Due Date			
1.							
2.							
3.							

Environmentally Sensitive Areas

- ▶ Riparian Zones
- ▶ Water Related Habitat
- ▶ Undeveloped Floodplains
- ▶ Cross Timber Upland Habitat



Environmentally Sensitive Area

Grow Zone

OUR WATER (No Mowing!)



Riparian zones, such as these, with tall grasses and plants:

- Improve water quality and quantity
- Stabilize streambanks from erosion
- Provide wildlife habitat and food
- Shade streams and lower temperatures

KEEP IT CLEAN

**Zona Ribereña Delicada
¡No corte las hierbas!**

Zona ribereña de pastos altos y plantas silvestras:

- Mejoran la calidad y cantidad del agua
- Estabilizan los causes de erosión
- Proporcionan un entorno de vida silvestre y de alimentos
- Hay mucha sombra para el suelo y para moderar las temperaturas del agua

Learn more at www.dentonwatersheds.com



Parks Grow Zones

- ▶ Natural areas
- ▶ Signage to educate community



Environmental Management Area

Grow Zone

OUR WATER (Limited Management)



KEEP IT CLEAN

Environmental zones, such as these, with tall grasses and plants:

- Improve water quality and quantity
- Stabilize streambanks from erosion
- Provide wildlife habitat and food
- Shade streams and lower temperatures

The City of Denton has a specific management strategy for these areas to optimize their environmental services.

Zona Ribereña Delicada ¡No corte las hierbas!

Zona ribereña de pastos altos y plantas silvestras:

- Mejoran la calidad y cantidad del agua
- Estabilizan los causes de erosión
- Proporcionan un entorno de vida silvestre y de alimentos
- Hay mucha sombra para el suelo y para moderar las temperaturas del agua

Learn more at www.dentonwatersheds.com



Wildflower Planting Program – Low Mow

- ▶ Green Ribbon Medians
- ▶ 224 acres ROWs and open spaces
- ▶ Bloom throughout the year
- ▶ Reduced maintenance
 - ▶ Reduce greenhouse gas emissions
 - ▶ Conserve water

Supporting Sustainability

- ▶ Monarch City USA
- ▶ Bee City USA
- ▶ Tree City USA
- ▶ Integrated Pest Management Plan
- ▶ Bird City Texas – in progress
- ▶ NWF Community Wildlife Habitat



TREE CITY USA®
An Arbor Day Foundation Program

Questions

- ▶ [JoEtta Dailey, Watershed Protection Manager](#)
- ▶ Joetta.Dailey@cityofdenton.com



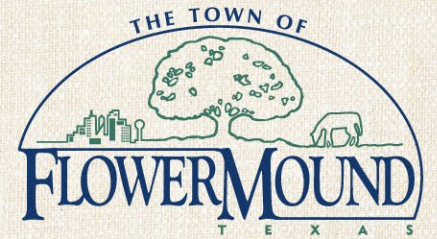
Speaker Introduction

John Chapman

- ▶ Long Range Planner
- ▶ Town of Flower Mound

Joe Whiteley

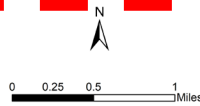
- ▶ Environmental Review Analyst
- ▶ Town of Flower Mound



Town of Flower Mound

John Chapman & Joe Whiteley

- Cross Timbers Conservation Development District
- Community Wildlife Habitat Certification Program



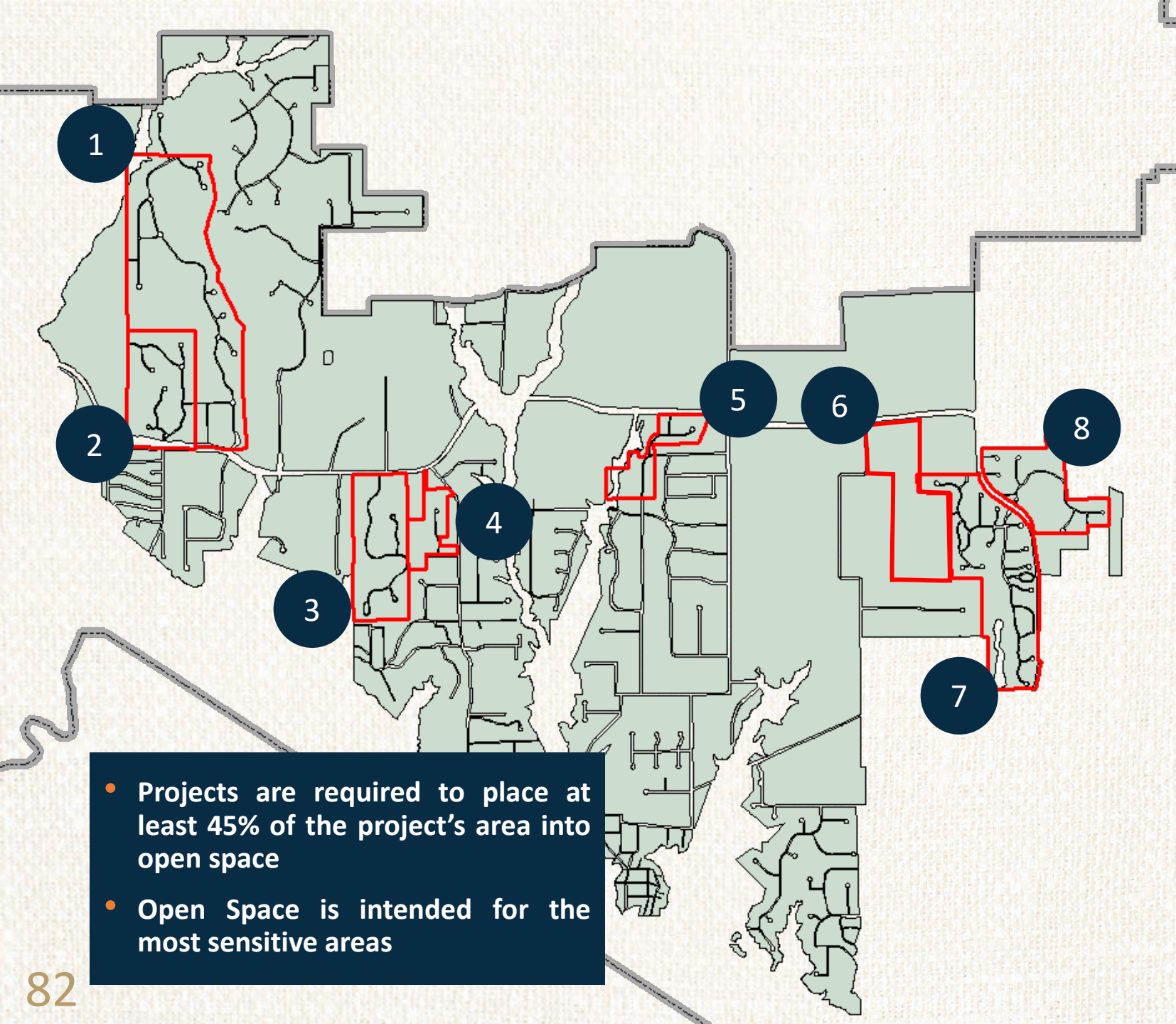
Land Use - Oct 2022

Land Use - Oct 2022

- | | |
|-------------------------------------|--|
| County Limit | Office or Medium Density Residential |
| Boundaries | Commercial |
| Cross Timbers Protection Area | Commercial/Industrial |
| Parcels | Commercial/Industrial or Mixed Density Residential |
| Mixed Use | Campus Commercial |
| Rural Residential | Campus Industrial |
| Estate Residential | Utility |
| Low Density Residential | Institutional |
| Medium Density Residential | Grapevine Lake |
| Medium High Density Residential | Corps of Engineers |
| High Density Single Family Detached | Flood Plain |
| High Density Residential | Park |
| Retail | Canyon Falls Open Space |
| Office | Area Plan |
| | Cross Timbers Conservation Development District |
| | Denton Creek District |
| | Lakeside Business District |
| | Prairie Vista District |

This data has been compiled by the Town of Flower Mound and is for informational purposes. Various official and unofficial sources were used to gather this data, but it does not represent an on-the-ground survey and shows only the approximate relative location of property boundaries.

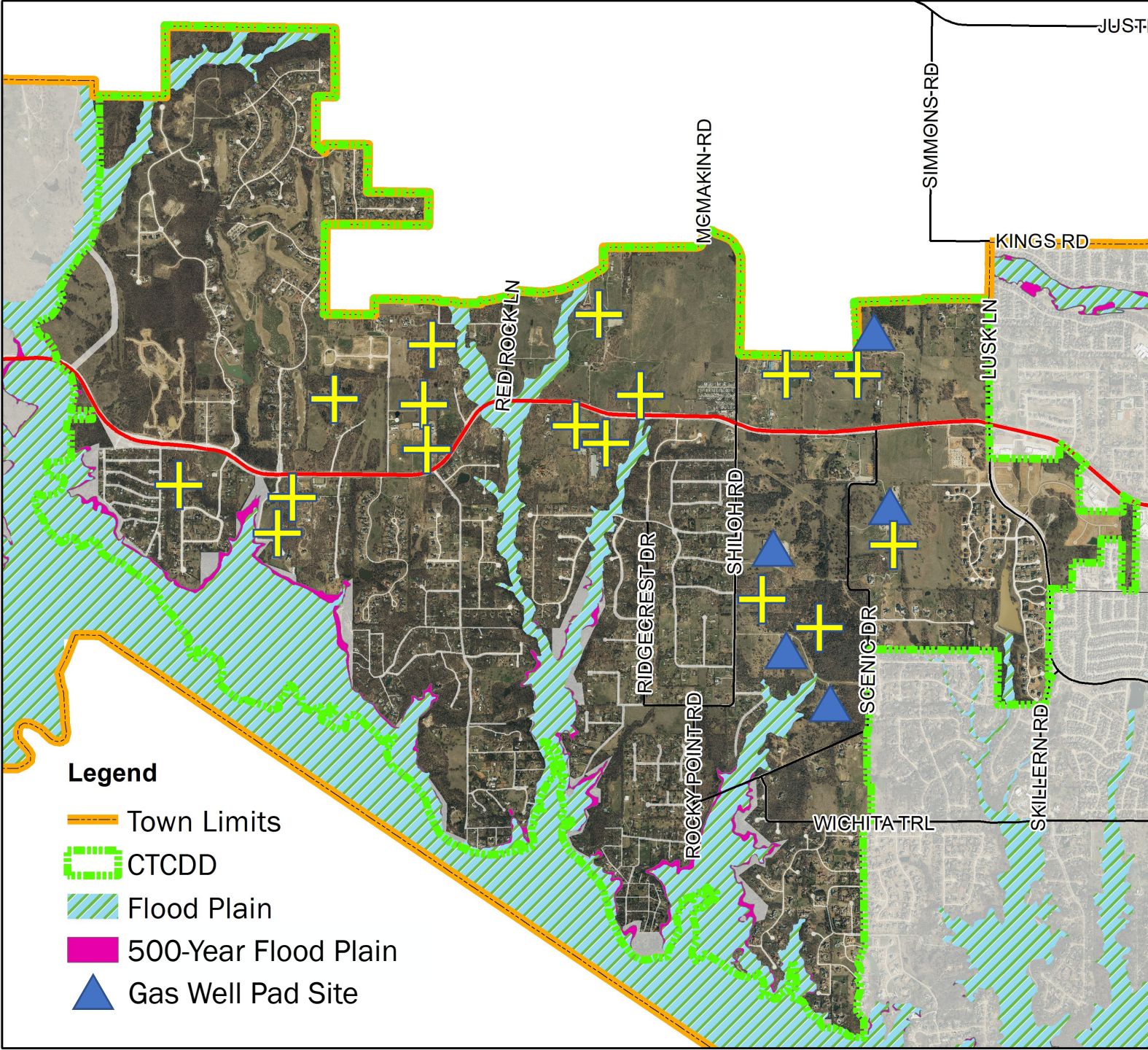
Every effort was made to ensure the accuracy of this data, but it may not be suitable for legal, engineering, or surveying purposes. As such, no guarantee is given or implied as to the accuracy of this data. For official verification of landuse and zoning boundaries please contact the Planning Department.








Conservation-type Developments

- 1. Montalcino - Conservation**
 - 103 lots on 280.6 acres
 - Approved on March 1, 2010
- 2. Pepper Creek Ranch – Cluster**
 - 50 lots on 94.61 acres
 - Approved on May 21, 2018
- 3. Chimney Rock – Conservation**
 - 51 lots on 103.7 acres
 - Approved on December 16, 2002
- 4. High Meadow – Conservation**
 - 15 lots on 32.38 acres
 - Approved on August 19, 2013
- 5. Hillside of F.M. - Cluster**
 - 28 lots on 46.22 acres
 - Approved on September 21, 2015
- 6. Townlake Ph 5/6 - Cluster**
 - 65 lots on 107.26 acres
 - Approved on April 4, 2022
- 7. Townlake 1/2/3 - Cluster**
 - 105 lots on 170.96 acres
 - Approved on April 20, 2015
- 8. Townlake 4 - Cluster**
 - 56 lots on 89.92 acres
 - Approved on October 1, 2018


- Projects are required to place at least 45% of the project's area into open space
- Open Space is intended for the most sensitive areas



Legend

-  Town Limits
-  CTCDD
-  Flood Plain
-  500-Year Flood Plain
-  Gas Well Pad Site

Environmentally Sensitive Areas

 Possible water impoundment, which includes existing ponds with a surface area greater than 0.5 acres. Water impoundments must be integrated into a proposed development and be addressed in an Environmental Protection Plan. An exception may be approved by Town Council if the development wishes to eliminate or alter flow to an impoundment area.

Upland habitat, which are 10-acre (minimum) tracts of land with at least 50 trees per acre containing a predominant (more than 30%) matrix of tree species identified on the Town's protected tree list.

Heavily-treed properties and specimen trees identified on a tree survey are not to be cut down, destroyed, or removed without first obtaining proper permission from the Town.

2. Street Buffer Open Space

- 1) Street Buffer
 - a) Description:
 - i) Location: Areas included are the 50'-0" Landscape buffer along Cross Timbers Road, Scenic Drive, and Walsingham Drive, as well as Block E, lots 2X and 3X
 - ii) Street buffer land shall include a 30'-0" pipeline easement, a 20'-0" H.O.A. Maintenance easement, and a varying width drainage easement.
 - iii) Street buffer area shall include an existing 8'-0" concrete trail, Primary Entry Monuments, Enhanced Landscape, Required Street Trees, and Split Rail Fencing.
 - iv) Street buffer area is comprised of approximately 6.306 acres (274,708.26 SF)
 - b) Maintenance:
 - i) Street buffer open space and amenities will be maintained by the developer initially, then by the H.O.A., as outlined in the dedications and restrictions. Service and repairs of all the items listed above.
 - c) Uses:
 - i) Street buffer will be open to the public to contribute to the aesthetic rural vistas as well as for use of the 8'-0" hike and bike trail located along Cross Timbers Road, Scenic Drive, and Walsingham Drive.

6. Native Prairie Habitat

- 1) Native Prairie Habitat
 - a) Description:
 - i) Location: Open prairie (Lacking Trees) sections of Lot 1X, Block A and B; Lot 1X, Block D; and the southern section of Lot 1X, Block E which includes Native Prairie Habitat.
 - ii) These meadows presently have primarily coastal Bermuda grass.
 - iii) Native Prairie Habitat areas comprise approximately 17.283 Acres (752,833.9 SF)
 - b) Maintenance:
 - i) Option 1: Keep as Bermuda for low maintenance open space.
 - ii) Option 2: Control burn to remove the current Bermuda. Then addition of native mix groundcover like buffalo grass, other native grasses, native wildflowers, and other approved seed mixes shall be seeded seasonally.
 - iii) The developer and H.O.A. to create a schedule to coincide with appropriate seasonal timing. Developer and H.O.A. to seek consultant supervision and information over appropriate seeding measures and specifications.
 - c) Uses:
 - i) The rural pastoral open space vistas will be significant and the homeowners and their guests may enjoy these areas for picnics, parties and passive recreation.
 - ii) Interpretive signage is recommended for native plants along trails for education and interest.

3. Existing Woodland Upland Habitat

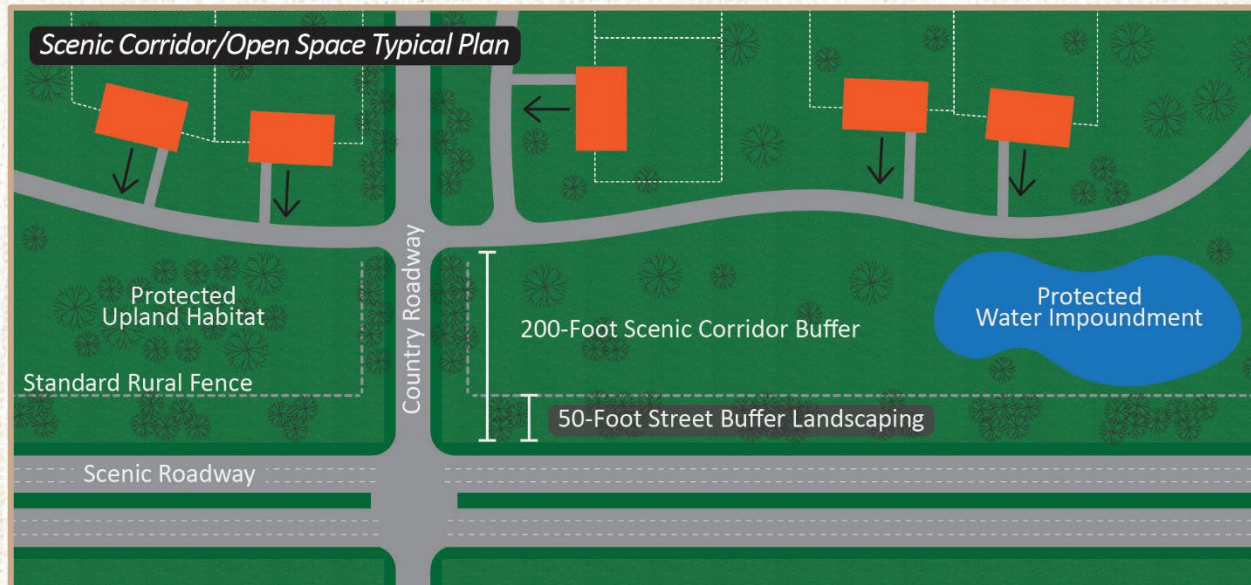
- 1) Woodland Upland Habitat
 - a) Description:
 - i) Location: The forested section of Lot 1X, Block A; The forested section of Lot 1X, Block B; The forested section of Lot 1X, Block E; Lot 1X, Block C; and Lot 2X, Block A.
 - ii) Outcrop of existing Wooded open space with trees covering 20%-100% of the included lots.
 - iii) Majority of the existing Wooded Upland Habitats are comprised of Post Oaks and Cedar Elms.
 - iv) Other mentionable species on site included American Elms, Eastern Red Cedars and Black Jack Oaks.
 - v) Wooded open spaces make up approximately 23.668 Acres (103,1005.26 SF).
 - b) Maintenance:
 - i) This Open Space will remain with all wildlife habitats undisturbed*.
 - ii) Gas well site will be under the supervision of the gas well site owner and act as a buffer.
 - iii) Heavily treed areas will be under the supervision of an ISA certified arborist retained by the Developer and/or the H.O.A.

*To the extent improvements to the existing stock pond located on Lot 1X, Block A are needed or required, improvements will be appropriately permitted and constructed in such a manner minimizing impacts to the existing surrounding habitat and wetlands. The pond maintenance will include a mix of biological, chemical, or mechanical methods as required and directed by a certified fisheries professional.
 - c) Uses:
 - i) In coordination with the Private Meadows Open Space, the Wooded Upland Habitat areas will contribute to buffering the sound of the active gas system adjacent to the residences.
 - ii) The approved and finalized areas of the gas well easement shall be open to the homeowners and their guests to enjoy these areas for hiking, wildlife observations, and passive recreation.

- Identifies all open spaces, maintenance requirements, and allowed uses
- Approved as part of the zoning application
- Filed with the County as part of the HOA CCRs

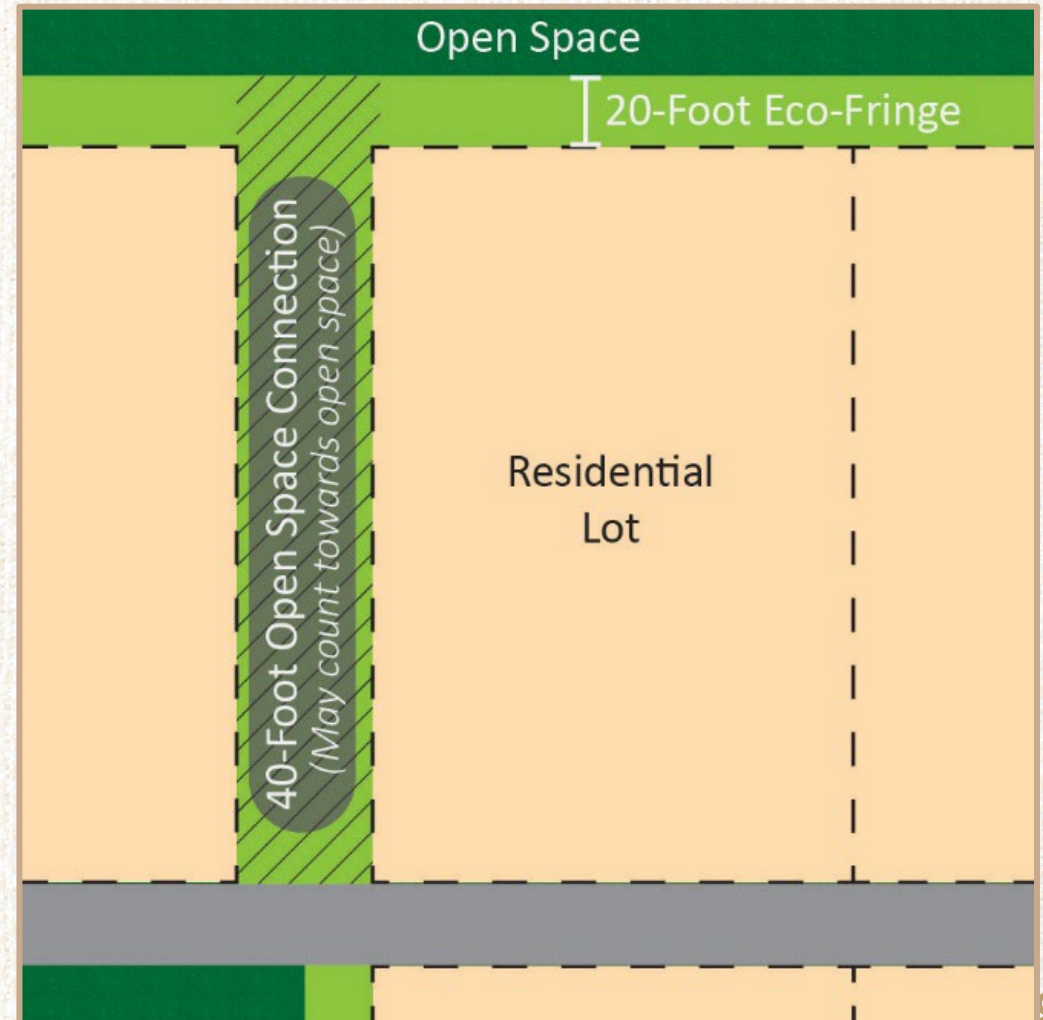
Scenic Corridors

- Described as “land visible from scenic or country roads, and that possesses natural elements indicative of a country atmosphere or natural environment.”
- Minimum 200-foot scenic corridor buffer requirement along the scenic roadway
- Generally owned by the HOA
- Requirements of land maintenance provided within the Open Space Management Plan



Eco-Fringe Buffers

- Applicable to residences adjacent to open spaces
- Requires buffers to extend at least 20 feet from residential property line
- Eco-fringe is intended to be maintained, but provides for areas to be considered no-mow zones



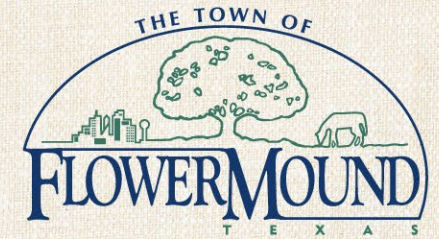
Community Wildlife Habitat Program

- Administered by the National Wildlife Federation
- Communities work toward certification by certifying properties as wildlife habitats.
- Properties are assigned point values based on their type. (Residence, park, school, etc.)
- Individual properties must meet five requirements to be certified as habitats. (Food, water, cover, place to raise young, and sustainable gardening practices.)

Outreach

- Points toward certification are added for meeting outreach and education benchmarks.
- Educational opportunities include booths and tabling events discussing benefits of sustainable gardening, water conservation, native plantings, no-mow zones, etc.





Town of Flower Mound

John Chapman

O: 972-874-6329

E: Planning@flower-mound.com

Joe Whiteley

O: 972-874-6354

E: environmentalservices@flower-mound.com

Questions?



Wrap-Up

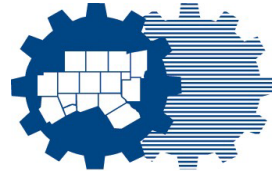
- ▶ If you submitted an RSVP for this webinar, you will receive an email with the presentation slides and a subsequent email with a link to the recording.
- ▶ All webinar slides and recordings are posted on NCTCOG's website under the green banner, "Webinars" here:

<https://www.nctcog.org/envir/natural-resources/water-resources>

- ▶ If you did not RSVP and would like these webinar materials, please email eberg@nctcog.org.

Webinar Survey

- ▶ Please provide your feedback on today's webinar in this 4-question survey. Thank you!
- ▶ <https://form.jotform.com/230524726168154>



North Central Texas Council of Governments

Thank you for attending!

**NCTCOG Webinar
February 22, 2023**

*Prepared in cooperation with the
Texas Commission on Environmental Quality and
U.S. Environmental Protection Agency*

Elena Berg, NCTCOG
eberg@nctcog.org



www.nctcog.org/WaterResources